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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,955	09/22/2003	James Y.J. Chung	PO7946/MD02-19	1214
157 7590 05/02/2008 BAYER MATERIAL SCIENCE LLC 100 BAYER ROAD PITTSBURGH, PA 15205				
EXAMINER				
SZEKELY, PETER A				
ART UNIT		PAPER NUMBER		
1796				
MAIL DATE		DELIVERY MODE		
05/02/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/667,955

Applicant(s)

CHUNG ET AL.

Examiner

Peter Szekely

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 13-15 and 20-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Ross et al. 6,610,770, with Bixler et al. 5,178,730, Larson 6,858,665 and Masuda et al. 7,026,023.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
6. Claims 13-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ross et al. 6,610,770, in view of Bixler et al. 5,178,730, Larson 6,858,665 or Masuda et al. 7,026,023.
7. All rejections are maintained in view of the "Response to Arguments" below.

Response to Arguments

8. Applicant's arguments filed 3/21/08 have been fully considered but they are not persuasive. Admittedly, Teppo 5,495,989 discloses large particle size smectite clays in column 1, lines 30-67 and shows grinding these clays in the apparatus elucidated in the claims. However, this does not prove that the clays used by Ross et al. can be larger than applicants' claimed particle sizes. Firstly, Ross et al. teach grinding the clays in column 11, lines 5-9. Secondly, Ross et al. claim organoclays in claim 1, and "organoclay" is a synonym for "nanoclay". See Vargas et al. 6,602,966, column 2, lines 65-67, Liang et al. 2008/0021138, paragraphs 0004, 0035, 0036, and 0040, Chan et al. 2008/0004391, paragraph 0073 and Guo et al. 7,250,477, column 15, lines 43-44. Nanoclays are called nanoclays because they are nanometer sized. The references cited in the rejection show that the particle sizes claimed by applicants are typical and thus obvious. The carboxylic acid addition by Ross et al. is not optional. Claim 3 of the reference absolutely, definitely, positively claims carboxylic acids. Why Ross et al. blends the claimed materials together is immaterial. Polycarbonate can be one of the organic materials, and it is positively claimed in claim 4 among 7 alternative polymers. One out of 7 is not virtually limitless. As far as the Declaration allegedly proving that the inventive process is not applicable to SAN, the examiner wishes to state that the so-called proof is not commensurate with applicants' claims. The Declaration shows the effect of 10% of citric acid by weight based on the nanoclay, while claim 1 broadly claims 1-20% of any carboxylic acid based on the nanoclay in the inventive composition. The evidence has to establish unexpected results for the

entire claimed range, not only at one point. See *In re Harris*, 74 USPQ2d 1951, 1955 (Fed. Cir. 2005); *In re Costello*, 178 USPQ 290, 292 (CCPA 1073).

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Szekeley whose telephone number is (571) 272-1124. The examiner can normally be reached on 6:10 a.m.-4:40 p.m. Tuesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on (571) 272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1796

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Peter Szekely/
Primary Examiner, Art Unit 1796

Peter Szekely
Primary Examiner
Art Unit 1796

/P. S./
Primary Examiner, Art Unit 1796
4/28/08